CLAIMES

1. A refrigerator comprising:

a compressor (1) for compressing refrigerant;

a first liquid heat exchanger (3) performing heat exchange between the refrigerant and first liquid heat medium;

an expander (11, 12) expanding the refrigerant;

a second liquid heat exchanger (4) performing heat exchange between the refrigerant and second liquid heat medium;

an air heat exchanger (6) performing heat exchange between the refrigerant and air;

a refrigerant flow rate adjuster (8, 9) adjusting refrigerant flow rates in the first liquid heat exchanger (3), the second liquid heat exchanger (4) and the air heat exchanger (6); and

a controller (19) controlling the refrigerant flow rate adjuster (8, 9) so that the refrigerant flows to the air heat exchanger (6) at a flow rate not lower than a minimum flow rate (Qs) which prevents stagnation of the refrigerant in the air heat exchanger (6) in a situation where the refrigerant is made to flow to both the first liquid heat exchanger (3) and the air heat exchanger (6).

2. A refrigerator as claimed in claim 1, wherein the controller (19) controls the refrigerant flow rate adjuster (8, 9) so that the refrigerant flows to the air heat exchanger (6) at a flow rate not lower than a minimum flow rate (Qs) determined on basis of a temperature of outside air where the air heat exchanger (6) is placed in a situation where the refrigerant is made to flow to both the first liquid heat exchanger (3) and the air heat exchanger (6).

3. A refrigerator as claimed in claim 1, wherein the controller (19) controls the refrigerant flow rate adjuster (8, 9) so that the refrigerant flows to the air heat exchanger (6) at a flow rate not lower than a minimum flow rate (Qs) determined on basis of a temperature of outside air where the air heat exchanger (6) is placed and a target temperature (Ts_1) of the first liquid heat medium that undergoes heat exchange with the refrigerant in the first liquid heat exchanger (3), in a situation where the refrigerant is made to flow to both the first liquid heat exchanger (3) and the air heat exchanger (6).

4. A refrigerator as claimed in claim 1, wherein the controller (19) controls the refrigerant flow rate adjuster (8, 9) so that the refrigerant flows to the

air heat exchanger (6) at a flow rate not lower than a minimum flow rate (Qs) determined on basis of a temperature of outside air where the air heat exchanger (6) is placed, a target temperature (Ts_1) of the first liquid heat medium that undergoes heat exchange with the refrigerant in the first liquid heat exchanger (3), and a temperature (Tm_1) of the first liquid heat medium that has undergone the heat exchange with the refrigerant in the first liquid heat exchanger (3), in a situation where the refrigerant is made to flow to both the first liquid heat exchanger (3) and the air heat exchanger (6).